

Portage Creek Sediment Remediation Project Kalamazoo, Michigan

Post-Sediment Removal Structure Feature Assessment
Removal Areas SA1-A, SA1-B and SA1-C



Prepared For:



Prepared By:



F&V Project Number: 809930
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General Notes:

- The Post-Sediment Removal Structural Feature Assessment is based on observable conditions at the time of assessment and is not a guarantee of the condition of the various structures or an evaluation of the potential for long term impacts of the sediment removal process.
- No testing of materials or other in-depth evaluation was performed as part of the assessment.
- Structures are numbered corresponding to the Pre-Sediment Removal Structural Feature Assessment. Refer to the corresponding report for comparison of pre- and post-sediment removal conditions.

Designation: SA1-A-S01

Location: SA1-A-S01 is located approximately 5' from the west bank of Portage Creek at the south end of SA1-A.

Description: SA1-A-S01 is a wood utility pole carrying several overhead utilities.

Assessment Findings:

- The guy wire that had been tangled in woody debris in the channel is now hanging loose on the west bank.
- The structure does not appear to have been impacted during sediment removal.



Pole viewed from the north



Pole viewed from the west

Designation: SA1-A-S02

Location: SA1-A-S02 is located in the southwest quadrant of the Michigan Avenue Bridge over Portage Creek. It is located approximately 15' from the top of bank.

Description: SA1-A-S02 is a CMU/brick building.

Assessment Findings:

- Cracking observed does not appear to have changed.
- The structure does not appear to have been impacted during sediment removal.



View of the structure looking north



View of the structure looking northwest



Crack separation at joint between building sections



View of the structure from the east bank

Designation: SA1-A-S03

Location: SA1-A-S03 is located in the southwest quadrant of the Michigan Avenue Bridge over Portage Creek. It is located approximately 12' from the top of bank.

Description: SA1-A-S03 is a billboard structure consisting of steel H-pile columns supporting the access and billboard areas above. There is an electric service panel for the structure mounted on the northernmost column.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the structure from the east bank



View of the structure looking north

Designation: SA1-A-S04

Location: SA1-A-S04 is located approximately 100' south of the Michigan Avenue Bridge on the east bank of Portage Creek.

Description: SA1-A-S04 was a steel outlet pipe of unknown purpose.

Assessment Findings:

- The structure has been removed and bank restored with riprap.



View of the east bank where SA1-A-S04 was previously located.

Designation: SA1-A-S05

Location: SA1-A-S05 is located on the west bank of Portage Creek in the southwest quadrant of the Michigan Avenue Bridge.

Description: SA1-A-S05 is concrete rubble wall extending south from the bridge substructure.

Assessment Findings:

- A concrete outlet through the wall was obscured by high water during the Pre-Sediment Removal Structure Feature Assessment, however, it does not appear to have been impacted by the work.
- The structure does not appear to have been impacted during sediment removal.



View of structure from the channel

Designation: SA1-A-S06

Location: SA1-A-S06 is located on the east bank of Portage Creek in the southeast quadrant of the Michigan Avenue Bridge.

Description: SA1-A-S06 is concrete rubble wall extending south from the bridge substructure.

Assessment Findings:

- Cobble riprap has been placed in front of the wall along the water's edge.
- The structure does not appear to have been impacted during sediment removal.



View of structure from the channel

Designation: SA1-A-S07

Location: SA1-A-S07 is the Michigan Avenue Bridge over Portage Creek.

Description: SA1-A-S07 is a single span steel girder structure on concrete abutments. It has a concrete deck and sidewalks and steel tube railings. It was constructed in 1946 and the deck was replaced in 1995 along with partial beam replacement and other improvements. According to the available construction plans, the abutments are supported on spread footings.

Assessment Findings:

- Restoration is ongoing in the southeast quadrant.
- The northwest quadrant has been cleared and restored with riprap.
- The structure does not appear to have been impacted during sediment removal.



View of structure from the southeast approach area



Elevation view of the structure



Ongoing restoration in the southeast quadrant



Riprap on northwest bank

Designation: SA1-A-S08

Location: SA1-A-S08 is located on the east bank of Portage Creek approximately 20 feet north of the Michigan Avenue Bridge.

Description: SA1-A-S08 is a 12-inch outlet with concrete headwall.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of structure looking north



Close-up view of the structure

Designation: SA1-A-S09

Location: SA1-A-S09 is located along the west bank of Portage Creek, north of the Michigan Avenue Bridge.

Description: SA1-A-S09 is a series of monitoring well structures.

Assessment Findings:

- The bank has been cleared and the area restored with riprap.
- The monitoring wells do not appear to have been impacted during sediment removal.



View of structures from the channel



View of structures from the channel

Designation: SA1-A-S10

Location: SA1-A-S10 is located in the northwest quadrant of the Michigan Avenue Bridge. It is approximately 10-15' from the top of bank.

Description: SA1-A-S10 is a building with a combination of brick façade on the southern face and aluminum siding elsewhere. The southern portion of the building appears to have a concrete foundation wall. The northern portion's foundation is obscured by wood cladding.

Assessment Findings:

- Cracking in the brick extension wall appears to be unchanged.
- The bank along the structure has been cleared and restored with riprap.
- The structure does not appear to have been impacted during sediment removal.



View of structure from the channel



View of structure from the channel



Cracking in brick extension wall looking north



View of brick façade on south side of structure



Cracking in brick extension wall looking south



View of concrete and asphalt area on the north side of the structure

Designation: SA1-A-S11

Location: SA1-A-S11 is located on the west bank of Portage Creek approximately 50' south of the Rose Park pedestrian bridge.

Description: SA1-A-S11 is a 10-foot diameter concrete storm sewer outlet.

Assessment Findings:

- The bank around the structure has been cleared and restored with riprap.
- The structure does not appear to have been impacted during sediment removal.



View of structure looking southwest



View of structure looking northwest



View of structure from the east bank

Designation: SA1-A-S12

Location: SA1-A-S12 is located on the west bank of Portage Creek approximately 20' south of the Rose Park pedestrian bridge.

Description: SA1-A-S12 is a 6-inch PVC outlet with field stone spillway.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of structure from the water's edge

Location: SA1-A-S13 is the Rose Park pedestrian bridge.

Description: SA1-A-S13 is a single span pre-fabricated weathering steel through truss bridge with timber decking and concrete abutments. The east approach is a timber boardwalk and the west is a concrete approach slab with asphalt beyond. The west approach has weathering steel railings.

Assessment Findings:

- Trees and other landscaping in the northwest quadrant have been removed.
- Restoration is ongoing in the northwest quadrant.
- The monitoring well in the northwest quadrant appears to have been preserved.
- Repair of the split rail fence in the northwest was nearly complete at the time of evaluation.
- There are a number of cracked flags of concrete sidewalk in the southeast quadrant. They appear to be marked for replacement along with extension of the walk to the east.
- The structure itself does not appear to have been impacted during sediment removal.



Elevation view of structure looking northeast



View of structure from the west approach



Ongoing restoration in the northwest, monitoring well demarked with channelizing device



Ongoing replacement of split rail fence in northwest



Cracked sidewalk in the southeast quadrant



Cracked sidewalk in the southeast quadrant



Cracked sidewalk in the southeast quadrant

Designation: SA1-B-S01

Location: SA1-B-S01 is located at the top of the east bank along SA1-B.

Description: SA1-B-S01 is an area of asphalt pavement between the top of bank and several adjacent buildings.

Assessment Findings:

- Generally, the structure does not appear to have been impacted during sediment removal.
- Loose/failing concrete appears to have been removed from the dumpster parking block.
- One isolated area of failed pavement in the northeast appears to be marked for replacement.



View of pavement area looking north toward SA1-B



View of pavement area looking north toward SA1-B



View of pavement area looking north toward SA1-B



Isolated pavement failure apparently marked for replacement



Dumpster pad and parking block



View of asphalt pavement north of the dumpster pad

Designation: SA1-B-S02

Location: SA1-B-S02 is located on the east bank of Portage Creek approximately 50 feet north of the railroad bridge at the north end of SA1C.

Description: SA1-B-S02 is a 15-inch clay tile outlet.

Assessment Findings:

- The bank around the outlet has been restored with riprap.
- The outlet appears to have been removed or covered with geotextile fabric. If it is still operational, the geotextile fabric should be trimmed out around the outlet.



View of the bank around the previous location of SA1-B-S02

Designation: SA1-B-S03

Location: SA1-B-S03 is located along the west bank of Portage Creek in the area of SA1-B.

Description: SA1-B-S03 is an industrial building. There are two distinct building sections. The southernmost section has a concrete foundation wall with exposed form ties, all but the north end of which is protected by steel sheet pile. The foundation of the northern section is obscured by a series of corrugated metal sheets attached to the building.

Assessment Findings:

- Cracking and undermining observed does not appear to have changed.
- The structure does not appear to have been impacted during sediment removal.



View of the structure looking north



Critical cracking in concrete foundation wall



Failed corrugated siding and building transition



Undermined column footing



View of bank along north section of building



View of undermined column footing from east bank

Designation: SA1-B-S04

Location: SA1-B-S04 is located at the top of the east bank of Portage Creek near the center of SA1-B.

Description: SA1-B-S04 is guy pole and guy wire.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the guy pole and wire looking north

Designation: SA1-B-S05

Location: SA1-B-S05 is located on the east bank of Portage Creek near the north end of SA1-B.

Description: SA1-B-S05 is a corrugated PVC outlet extending from the bank.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the structure from the channel

Designation: SA1-B-S06

Location: SA1-B-S06 is located on the east bank of Portage Creek approximately 20 feet north of SA1-B.

Description: SA1-B-S06 is an 8-foot high chain link fence with barb wire oriented perpendicular to Portage Creek. The west end of the fence is within the channel area.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the fence looking northwest



View of the fence looking north

Designation: SA1-C-S01

Location: SA1-C-S01 is located along the east bank of Portage Creek at the south end of SA1-C.

Description: SA1-C-S01 is an industrial building. The building is located at the water's edge upstream of SA1-C but angles away from the channel in the area of work. The building is brick/block construction on concrete foundation wall.

Assessment Findings:

- Cracking and undermining observed appears to be unchanged.
- The structure does not appear to have been impacted during sediment removal.

Structure: SA1-C-S01

Date: October 28, 2013



View of structure from northwest



Overall view of structure from the north



Separation between sections of foundation wall appears unchanged



Exposed footing appears unchanged



Cracking in wall appears unchanged



Cracking in wall appears unchanged



Cracking in wall appears unchanged



Cracking in wall appears unchanged

Designation: SA1-C-S02

Location: SA1-C-S02 is located along the east bank of Portage Creek at SA1-C.

Description: SA1-C-S02 is a 6-foot high chain link fence with barb wire.

Assessment Findings:

- The bank along the northern area of the fence has been restored with riprap.
- The structure does not appear to have been impacted during sediment removal.



View of fence looking north



View of fence looking north with new riprap restoration



Failed barb wire at north end of fence

Designation: SA1-C-S03

Location: SA1-C-S03 is located on the west bank of Portage Creek at the south end of SA1-C.

Description: SA1-C-S03 is an area of concrete pavement.

Assessment Findings:

- Cracking and other deterioration observed appears to be unchanged.
- The structure does not appear to have been impacted during sediment removal.



View of pavement looking south



View of pavement looking north

Designation: SA1-C-S04

Location: SA1-C-S04 is located on the west bank of Portage Creek at the south end of SA1-C.

Description: SA1-C-S04 was an abandoned railroad track.

Assessment Findings:

- The structure appears to have been removed during sediment removal operations.



View of previous location of SA1-C-S04

Designation: SA1-C-S05

Location: SA1-C-S05 is located at the top of the west bank of Portage Creek approximately 20' north of the south end of SA1-C.

Description: SA1-C-S05 is an area of concrete pavement.

Assessment Findings:

- Cracking and other deterioration observed appears to be unchanged.
- The structure does not appear to have been impacted during sediment removal.



View of pavement looking north



View of pavement looking south

Designation: SA1-C-S06

Location: SA1-C-S06 is located on the east bank of Portage Creek approximately 30' north of the south end of SA1-C.

Description: SA1-C-S06 is a utility pole and guy wire with associated overhead lines.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of pole and guy looking southeast



View of pole and guy looking south

Designation: SA1-C-S07

Location: SA1-C-S07 is located on the west bank of Portage Creek 20' south of the railroad bridge.

Description: SA1-C-S07 was concrete block and chain link fence of unknown purpose.

Assessment Findings:

- The structure has been removed.



View of previous location of SA1-C-S07

Designation: SA1-C-S08

Location: SA1-C-S08 is located at the north end of SA1-C.

Description: SA1-C-S08 is a railroad bridge. The structure has steel beams on concrete/stone abutments, timber ties and timber railing on the north side. It is suspected that the abutments are supported on spread footings, possibly stone construction.

Assessment Findings:

- Severe deterioration of lower area of west abutment was obscured by high water during Pre-Sediment Removal Structure Assessment. However, the deterioration does not appear to be related to the sediment removal work.
- The structure does not appear to have been impacted during sediment removal.



View of the structure from the southeast



Elevation view looking northeast



View of east abutment looking northeast



Severe deterioration of lower area of west abutment

Designation: SA1-C-S09

Location: SA1-C-S09 is located just upstream of SA1-C along the south/east bank. It is several feet above the normal water line.

Description: SA1-C-S09 is a pipe outlet extending from the concrete retaining wall along the south/east bank. It was identified by EQM while mobilizing for work in SA1-C, when water conditions were more favorable than during the original evaluation.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the outlet looking west

Designation: SA1-C-S10

Location: SA1-C-S10 is located at SA1-C-S01, on the south/east bank of Portage Creek at the upstream end of SA1-C. The outlets are between the normal water line and several feet above the normal water line.

Description: SA1-C-S10 is a series of outlet pipes in the foundation wall of SA1-C-S01. They were identified by EQM while mobilizing for work in SA1-C, when water conditions were more favorable than during the original evaluation.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the outlets looking west

Designation: SA1-C-S11

Location: SA1-C-S11 is located at SA1-C-S01, on the south/east bank of Portage Creek at the upstream end of SA1-C. The outlet is near the normal water line.

Description: SA1-C-S11 is 12-inch outlet pipe between the foundation wall of SA1-C-S01 and the water's edge. It was identified by EQM while mobilizing for work in SA1-C, when water conditions were more favorable than during the original evaluation.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



Close-up view of the structure



View of the structure looking south

Designation: SA1-C-S12

Location: SA1-C-S12 is located at SA1-C-S01, on the south/east bank of Portage Creek at the upstream end of SA1-C. It is located approximately 2 feet above the normal water line.

Description: SA1-C-S12 is a 12-inch outlet pipe with concrete headwall. It was identified by EQM while mobilizing for work in SA1-C, when water conditions were more favorable than during the original evaluation.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the outlet from the north bank

Designation: SA1-C-S13

Location: SA1-C-S13 is located along the east bank of Portage Creek at the guy for structure SA1-C-S06. It is located at the normal water line.

Description: SA1-C-S13 is a 24-inch concrete outlet pipe. It was identified by EQM while mobilizing for work in SA1-C, when water conditions were more favorable than during the original evaluation.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the outlet from the west bank